



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/846,508	05/01/2001	Qunshan Gu	SDAC-P01-074	5504

29855 7590 06/22/2006

WONG, CABELLO, LUTSCH, RUTHERFORD & BRUCCULERI,
L.L.P.
20333 SH 249
SUITE 600
HOUSTON, TX 77070

EXAMINER

RAMAKRISHNAIAH, MELUR

ART UNIT	PAPER NUMBER
----------	--------------

2614

DATE MAILED: 06/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/846,508	GU, QUNSHAN	
	Examiner	Art Unit	
	Melur Ramakrishnaiah	2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-6, 12-15 and 21 is/are allowed.
- 6) ☒ Claim(s) 7-11, 16-18, 19-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wiegand et al. (US PAT: 6,807,231, filed 9-4-1998, hereinafter Wiegand) in view of Kim (US PAT: 5,969,766).

Regarding claim 7, Wiegand discloses a method comprising: receiving a first block of pixel values (this is implicit in as much as the reference teaches receiving image segment, col. 5, lines 15-18) representing a portion of image, receiving a second block of pixel values, the second block of pixel values represents estimated new values for the first block of pixel values (col. 5 lines 19-25), generating a third block of pixels by combining weighted values from the first block of pixel values and the second block of pixel values by applying a weight (col. 6 lines 10-18; figs. 1-4).

Wiegand differs from claims 7-9 in that he does not specifically teach varying weight according to motion within the second block, wherein weight is determined by selecting a value for the weight, generating a block of pixels with the selected weight, and using the possible block of pixels as the third block of pixels if error function is below a predetermined threshold, error function is evaluated by summing a difference between each pixel of the third block of pixels and a corresponding pixel of first block of pixels.

Art Unit: 2614

However, Kim discloses method and apparatus for contour motion estimating a binary image by using a weighted block match algorithm which teaches the following: method and apparatus for determining weighted errors by assigning weight which varies from one pixel to another in a video frame (col. 1 lines 8-13, col. 6 lines 48-63).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Wiegand's system to provide for the following: varying weight according to motion within the second block, wherein weight is determined by selecting a value for the weight, generating a block of pixels with the selected weight, and using the possible block of pixels as the third block of pixels if error function is below a predetermined threshold, error function is evaluated by summing a difference between each pixel of the third block of pixels and a corresponding pixel of first block of pixels as this arrangement would facilitate to find an optimum motion vector that yields minimum weighted errors as taught by Kim (col. 2, line 43 – col. 3, line 4).

3. Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wiegand) in view of Kim as applied to claim 7 above, and further in view of Hannuksela et al. (US PAT: 6,744,924, filed 11-2-1999, hereinafter Hannuksela).

The combination differs from claimed invention in that although it teaches decoding the first block of pixel values from a video stream and obtaining second block of pixel values by applying motion vectors decoded from a video stream to a previous block of pixel values derived from a video stream (col. 1 lines 37-45 of '231); it does not explicitly teach decoding multi-threaded video stream.

However, Hannuksela discloses error concealment in a video signal which teaches the following: decoding multi-threaded video stream (fig. 8 col. 10, line 32 – col. 11, line 13).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify the combination to provide for the following: decoding multi-threaded video stream as this arrangement would facilitate decoding video signals much faster because of the parallel processing of video signals as is well known in the art.

4. Claims 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wiegand in view of Hannuksela, Kim and Gupta et al. (US PAT: 5,920,356, hereinafter Gupta).

Regarding claim 16, Wiegand discloses a system comprising: a video conference terminal, the video terminal configured to video data, a decoder (122, fig. 1) in the video conferencing terminal that decodes the video data, videoconferencing terminal that generates video data by weighting data for data between data derived from prior values and new data from video data (col. 4 lines 37-45, col. 4, line 66 – col. 6, line 17).

Wiegand differs from claim 16 in that he does not specifically teach decoding the multi-threaded video into plurality of threads, filtering video data, and variably weighting video data.

However, Hannuksela teaches the following: teach decoding the multi-threaded video into plurality of threads (fig. 8, col. 10, line 37 – col. 11, line 10); Gupta teaches

Art Unit: 2614

the following: filtering video data (col. 5 lines 9-23); and Kim teaches the following: variably weighting video data (col. 1 lines 8-13, col. 6 lines 48-63).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify the combination to provide for the following: decoding the multi-threaded video into plurality of threads as this arrangement would facilitate decoding video signals much faster because of the parallel processing of video signals as is well known in the art; Gupta teaches the following: filtering video data as this arrangement would facilitate to eliminate artifacts created by coding as taught by Gupta, thus facilitating to create clearer image for display; variably weighting video data as this arrangement would facilitate to find an optimum motion vector that yields minimum weighted errors as taught by Kim (col. 2, line 43 – col. 3, line 4).

Wiegand differs from claims 17-18 in that he does not specifically teach the following: data derived from the prior values for the virtual thread is obtained by calculating the estimated motion vectors based upon motion vectors decoded from the multi-threaded video data, and applying the estimated motion vectors to the prior data for the virtual thread, H.263 compliant terminal.

However, Hannuksela teaches the following: data derived from the prior values for the virtual thread is obtained by calculating the estimated motion vectors based upon motion vectors decoded from the multi-threaded video data, and applying the estimated motion vectors to the prior data for the virtual thread (fig. 8, col. 10, line 37 – col. 11, line 10, H.263 compliant terminal (col. 9 lines 38-50).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify the combination to provide for the following: data derived from the prior values for the virtual thread is obtained by calculating the estimated motion vectors based upon motion vectors decoded from the multi-threaded video data, and applying the estimated motion vectors to the prior data for the virtual thread as this arrangement would facilitate decoding video signals much faster because of the parallel processing of video signals as is well known in the art; H.263 compliant terminal as this arrangement would provide capability to have a terminal compliant with well known coding standard as is well known in the art.

5. Claims 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hannuksela in view of Gupta.

Regarding claim 16, Hannuksela discloses a system comprising: receiving means (30, fig. 8) for receiving a multithreaded video, decoding means (fig. 8) for decoding the multithreaded video data into a plurality of threads, means (39, fig. 8) for generating virtual thread of video data for display by variably weighting the virtual thread between data derived from prior values for the virtual thread and new data from the plurality of threads of video (figs. 4-5, 8, col. 7, line, 66 – col. 8, line 32; col. 10, line 37 – 13).

Hannuksela differs from claim 16 in that he does not specifically teach filtering means for generating video data.

However, Gupta discloses coding parameter adaptive transform artifact reduction process which teaches the following: filtering means for generating video data (col. 5 lines 9-23).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify the combination to provide for the following: filtering means for generating video data as this arrangement would facilitate to eliminate artifacts created by coding as taught by Gupta, thus facilitating to create clearer image for display.

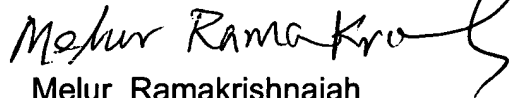
6. Claims 1-6, 12-15, 21 are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melur Ramakrishnaiah whose telephone number is (571)272-8098. The examiner can normally be reached on 9 Hr schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curt Kuntz can be reached on (571) 272-7499. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2614

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Melur Ramakrishnaiah
Primary Examiner
Art Unit 2614